

WHAT WE CLAIMED IS:

1. A method of searching for a boundary position between a recorded region and an unrecorded region of a recording disc which has been subjected to recording operation by an information recording apparatus having a recording/reproducing head for recording an information signal on the recording disc and reading recorded information from the recording disc to generate a read signal, and a slider unit for transferring said recording/reproducing head in a radial direction of the recording disc, said method comprising:

a scan RF search step of forcedly transferring said recording/reproducing head in the radial direction of the disc in response to a recording start instruction while confirming the presence or absence of an RF signal carrying the information signal in the read signal, and controlling said slider unit to stop a transfer operation of said recording/reproducing head upon detection of a transition from a state in which the RF signal exists to a state in which no RF signal exists;

an overrun distance measuring step of measuring a distance from a position of said recording/reproducing head at the time of the transition from the state in which the RF signal exists to the state in which no RF signal exists to a stop position at which said recording/reproducing head is finally stopped as an overrun distance; and

a boundary position transfer step of finding a

boundary position between a recorded region of the information signal and an unrecorded region of the recording disc based on the overrun distance and the stop position, and controlling said slider unit to transfer said recording/reproducing head to the found boundary position.

2. The boundary position search method according to claim 1, wherein said boundary position transfer step executes a transfer speed control for said slider unit to transfer said recording/reproducing head to the boundary position with a speed change profile for transferring said recording/reproducing head in the shortest time over the distance between the stop position and the boundary position.

3. The boundary position search method according to claim 2, wherein said slider unit comprises a motor capable of rotating at a rotational speed in accordance with a transfer speed control, and a slider mechanism for transferring said recording/reproducing head in a radial direction of the recording disc by a distance corresponding to a rotating angle of said motor.

4. The boundary position search method according to claim 3, in which said transfer speed control is preformed by generating drive pulses with a repetition frequency representing said speed change profile, and in which said motor is a stepping motor.

5. The boundary position search method according to claim 1, wherein said overrun distance measuring step measures the

overflow distance based on the number of recording tracks formed on a recording surface of the recording disc and being, traversed by said recording/reproducing head during a period from an instance of the transition from the state in which the RF signal up exists to the state in which no RF signal exists to an instance at which said recording/reproducing head is stopped.

6. An information recording apparatus having a recording/reproducing head for recording an information signal on a recording disc and reading recorded information from the recording disc to generate a read signal, and a slider unit for transferring said recording/reproducing head in a radial direction of the recording disc, said apparatus comprising:

a scan transfer control part responsive to a recording start instruction to control said slider to forcibly transfer said recording/reproducing head in the radial direction of the disc;

an RF detecting part for determining the presence or absence of an RF signal carrying the information signal in the read signal;

a transfer stop control part for controlling said slider unit to stop a transfer operation of said recording/reproducing head when detecting a transition from a state in which the RF signal exists to a state in which no RF signal exists;

an overflow distance measuring part for measuring, as

an overrun distance, a distance from a position of said recording/reproducing head at an instance the transition is detected from the state in which the RF signal exists to the state in which no RF signal exists to a position at which said recording/reproducing head is actually stopped; and

a boundary position transfer control part for finding a boundary position between a recorded region of the information signal and an unrecorded region of the recording disc based on the overrun distance and the position at which said recording/reproducing head is stopped, and controlling said slider unit to forcedly transfer said recording/reproducing head to the boundary position.

7. The information recording apparatus according to claim 6, wherein said boundary position transfer control part executes a transfer speed control for said slider unit to transfer said recording/reproducing head to the boundary position with a speed change profile for transferring said recording/reproducing head in the shortest time over the distance between the stop position and the boundary position.

8. The information recording apparatus according to any of claims 5 and 6, wherein said slider unit comprises a motor capable of rotating at a rotational speed in accordance with the transfer speed control, and a slider mechanism for transferring said recording/reproducing head in a radial

direction of the recording disc by a distance corresponding to a rotating angle of said motor.

9. The boundary position search method according to claim 8, in which said transfer speed control is preformed by generating drive pulses with a repetition frequency representing said speed change profile, and in which said motor is a stepping motor.

10. The information recording apparatus according to claim 6, wherein said overrun distance measuring means comprises:

a tracking error signal generator circuit for generating a tracking error signal based on the read signal;

a track traverse detector circuit for detecting a recording track formed on a recording surface of the recording disc, traversed by said recording/reproducing head based on the tracking error signal to generate a track traverse detection signal; and

a counter for counting the number of the track traverse detection signals generated from the time the transition is detected from the state in which the RF signal exists to the state in which no RF signal exists to a position at which said recording/reproducing head is stopped to provide a counted value as the overrun distance.